

Fourth Edition

Advanced primary maths

4

Harry O'Brien



OXFORD

CONTENTS

TERM 1

Unit 1	
Addition strategies.....	2
Commutative laws.....	3
Super problem solving.....	4
Pentagons and octagons.....	5
Unit 2	
Repeated addition.....	6
Subtraction strategies.....	7
Super problem solving.....	8
Centimetres.....	9
Unit 3	
Compensation strategy.....	10
Multiples and problems using multiples.....	11
Super problem solving.....	12
Parallelograms and trapeziums.....	13
Unit 4	
4-digit numeration.....	14
Trading in 3-digit addition.....	15
Super problem solving.....	16
Column graphs.....	17
Analog clocks.....	18
Unit 5	
Multiplication strategies.....	19
3-digit addition.....	20
Super problem solving.....	21
Prisms and pyramids.....	22
Perimeters.....	23
Unit 6	
Subtraction with trading.....	24
Counting by tens and hundreds.....	25
Super problem solving.....	26
Angles.....	27
Unit 7	
Multiplication strategies.....	28
Revising $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{10}$	29
Super problem solving.....	30
Mapping skills.....	31
Unit 8	
3-digit addition.....	32
Ordering halves, quarters, fifths and tenths.....	33
Super problem solving.....	34
Polygons and quadrilaterals.....	35
Digital time.....	36
Unit 9	
Odd and even numbers.....	37
Factors and factorising.....	38
Super problem solving.....	39
Using a legend.....	40
Litres and millilitres.....	41
DIAGNOSTIC Review 1	42

TERM 2

Unit 10	
Trading in subtraction.....	44
Equivalent fractions.....	45
Super problem solving.....	46
2D shapes and 3D objects.....	47
Unit 11	
Division strategies.....	48
Number patterns.....	49
Super problem solving.....	50
The square centimetre.....	51
Unit 12	
Addition.....	52
Division from multiplication.....	53
Super problem solving.....	54
Tables and column graphs.....	55
Unit 13	
Extended multiplication.....	56
Expressing numbers.....	57
Super problem solving.....	58
Angles and perpendicular lines.....	59
Kilograms.....	60
Unit 14	
4-digit addition.....	61
Mixed numerals.....	62
Super problem solving.....	63
Chance.....	64
Unit 15	
Connecting decimals and fractions.....	65
Division strategies.....	66
Rounding to 10 and 100.....	67
Super problem solving.....	68
Nets.....	69
Unit 16	
Extended multiplication.....	70
Fractions of a collection.....	71
Super problem solving.....	72
Millilitres.....	73
Unit 17	
Division with remainders.....	74
Associative property.....	75
Super problem solving.....	76
Surveys and column graphs.....	77
Chance.....	78
Unit 18	
4-digit subtraction.....	79
Equivalent tenths and hundredths.....	80
Super problem solving.....	81
Symmetry.....	82
Grams.....	83
DIAGNOSTIC Review 2	84

TERM 3

Unit 19	
Division.....	86
Decimal place value.....	87
Super problem solving.....	88
Compass points.....	89
Unit 20	
Subtraction.....	90
Numeration to 5 digits.....	91
Super problem solving.....	92
The square metre.....	93
Unit 21	
Short multiplication.....	94
2-digit division.....	95
Super problem solving.....	96
Reflect, translate and rotate.....	97
Unit 22	
2-digit division.....	98
Money.....	99
Super problem solving.....	100
Column graphs and surveys.....	101
am and pm notation.....	102
Unit 23	
5-digit addition.....	103
Percentages.....	104
Super problem solving.....	105
Faces, vertices and edges.....	106
Millimetres.....	107
Unit 24	
Multiplication.....	108
Adding and subtracting decimals.....	109
Super problem solving.....	110
Chance.....	111
Unit 25	
3-digit division.....	112
Calculator problems.....	113
Super problem solving.....	114
Grid references.....	115
Unit 26	
Multiplication.....	116
Number patterns.....	117
Super problem solving.....	118
Picture graphs.....	119
Area and perimeter.....	120
Unit 27	
Subtraction of money.....	121
Percentages.....	122
Multiplying and dividing decimals.....	123
Symmetrical patterns.....	124
Timetables.....	125
DIAGNOSTIC Review 3	126

TERM 4

Unit 28	
Multiplication by tens.....	128
Solving a problem.....	129
Super problem solving.....	130
Reflect, translate and rotate.....	131
Unit 29	
Number patterns.....	132
Rounding decimals and money.....	133
Super problem solving.....	134
Mapping/scale.....	135
Unit 30	
3-digit division.....	136
Money.....	137
Super problem solving.....	138
Spreadsheets.....	139
Reading scales.....	140
Unit 31	
3-digit multiplication.....	141
5-digit subtraction.....	142
Super problem solving.....	143
Three-dimensional views.....	144
Cubic centimetres.....	145
Unit 32	
Multiplication skills.....	146
Fraction and decimal patterns.....	147
Super problem solving.....	148
Combining shapes/tessellations.....	149
Unit 33	
Multiplication skills.....	150
Pattern checking.....	151
Super problem solving.....	152
Combine and split shapes.....	153
Unit 34	
Rounding numbers to 1000.....	154
Estimating and checking.....	155
Super problem solving.....	156
Measurement data.....	157
Calendars and timelines.....	158
Unit 35	
3-digit division.....	159
Expanding numbers.....	160
Super problem solving.....	161
Posing questions.....	162
Millimetres.....	163
DIAGNOSTIC Review 4	164
ANSWERS	166



Jump strategy

1 Add the following numbers by adding the tens part of the second number before adding the ones part.

a

36	+	23	=	
----	---	----	---	--

g

167	+	21	=	
-----	---	----	---	--

b

47	+	12	=	
----	---	----	---	--

h

235	+	34	=	
-----	---	----	---	--

c

33	+	46	=	
----	---	----	---	--

i

654	+	28	=	
-----	---	----	---	--

d

64	+	37	=	
----	---	----	---	--

j

867	+	29	=	
-----	---	----	---	--

e

45	+	28	=	
----	---	----	---	--

k

478	+	26	=	
-----	---	----	---	--

f

67	+	44	=	
----	---	----	---	--

l

674	+	18	=	
-----	---	----	---	--

$138 + 26 = ?$
Think:
 $138 + 20 + 6 = 164$



Split strategy

2 Add the following numbers by adding the tens part of both numbers, then the ones part of both numbers before combining them.

a

43	+	26	=	
----	---	----	---	--

g

132	+	44	=	
-----	---	----	---	--

b

37	+	52	=	
----	---	----	---	--

h

147	+	29	=	
-----	---	----	---	--

c

54	+	25	=	
----	---	----	---	--

i

169	+	36	=	
-----	---	----	---	--

d

63	+	29	=	
----	---	----	---	--

j

276	+	28	=	
-----	---	----	---	--

e

74	+	88	=	
----	---	----	---	--

k

357	+	46	=	
-----	---	----	---	--

f

86	+	47	=	
----	---	----	---	--

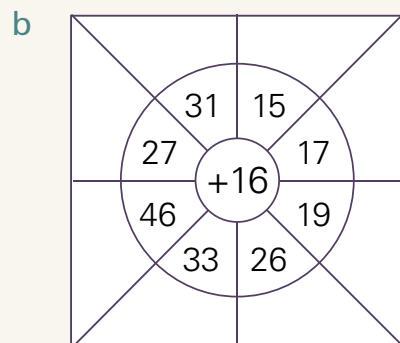
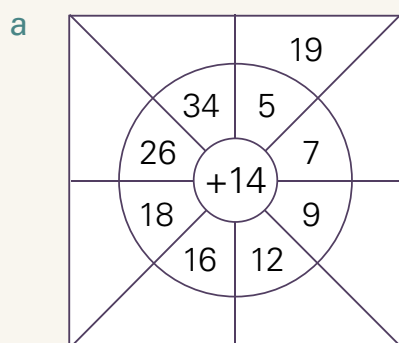
l

469	+	53	=	
-----	---	----	---	--

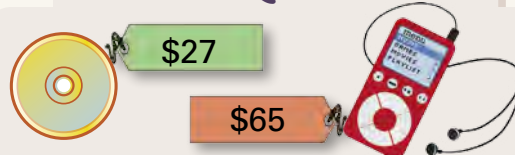
$37 + 27 = ?$
Think:
 $50 + 14 = 64$



3 Complete the addition grids (work clockwise).



SUPER QUESTION



4 Mark has \$189 to spend. If he bought the items above, how much would he have left?
\$ _____



- 5** George said that it doesn't matter in which order numbers are added. Check to see if George is correct by adding the following pairs of number sentences.

a	6	+	8	=	14	8	+	6	=	14
b	7	+	9	=		9	+	7	=	
c	14	+	6	=		6	+	14	=	
d	17	+	5	=		5	+	17	=	
e	13	+	8	=		8	+	13	=	
f	20	+	25	=		25	+	20	=	
g	18	+	17	=		17	+	18	=	
h	15	+	16	=		16	+	15	=	

7 + 9 = 16
9 + 7 = 16
Cool!



- 6** Maria said that you can also multiply numbers in any order. Check to see if Maria is correct by multiplying the following pairs of numbers.

a	6	×	3	=		3	×	6	=	
b	5	×	4	=		4	×	5	=	
c	6	×	5	=		5	×	6	=	
d	8	×	3	=		3	×	8	=	
e	7	×	6	=		6	×	7	=	
f	9	×	6	=		6	×	9	=	

So is 5 × 7
equal to
7 × 5?

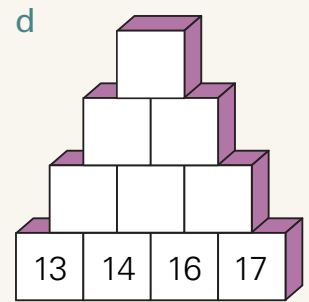
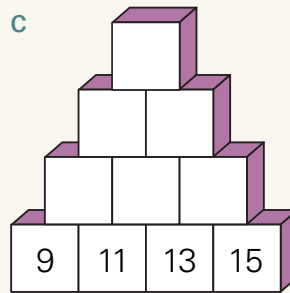
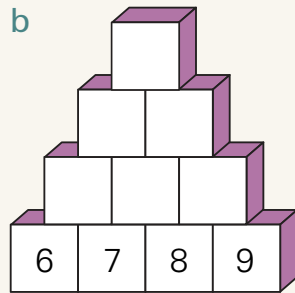
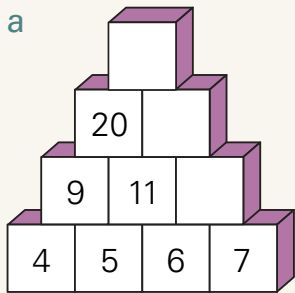


- 7** Write 2 number sentences for each problem before solving it.

	Problem	Number sentences	Answer										
a	John had 13 toy cars and Jim had 12. How many toy cars did they have altogether?	<table border="1"> <tbody> <tr> <td></td> <td>+</td> <td></td> <td>=</td> <td></td> </tr> <tr> <td></td> <td>+</td> <td></td> <td>=</td> <td></td> </tr> </tbody> </table>		+		=			+		=		
	+		=										
	+		=										
b	Freda saved \$6 every week for 4 weeks. What was the total amount of money Freda saved?	<table border="1"> <tbody> <tr> <td></td> <td>×</td> <td></td> <td>=</td> <td></td> </tr> <tr> <td></td> <td>×</td> <td></td> <td>=</td> <td></td> </tr> </tbody> </table>		×		=			×		=		
	×		=										
	×		=										



8 Solve the addition stacks.



9 Solve the problems.

a	If a ship travels 24 km in one hour, how far will it have travelled in 4 hours?	c	Matthew spent \$1.60 at recess and \$2.40 at lunch. How much does he have left from \$10?
b	Karen bought a toy for \$6.70. She paid for it with a \$10 note. How much change did she receive?	d	Phillip had \$19 but spent \$3.50 on a magazine and \$4.50 on a pen. How much does he have left?

WEEKLY TESTER

10 Kelly and Jackie wanted to buy a netball ring. Kelly has saved \$125 towards it and Jackie has saved \$80. How much more do they need to save to buy a ring worth \$280?

a What has to be found?

b How are you going to find it?

c Working out.



OPEN-ENDED CHALLENGER

11 In a basketball game it is possible to score 1 point, 2 points or 3 points. In a recent game the Tigers played the Redbacks and the score was 46 to 37. Show how the teams may have scored their points by completing the table for each team.

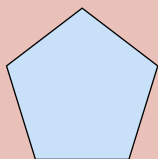
TIGERS 46

Points	1 Point	2 Points	3 Points
Baskets			
Total			

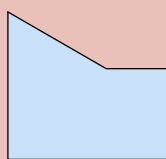
REDBACKS 37

Points	1 Point	2 Points	3 Points
Baskets			
Total			

A **pentagon** is a shape with 5 straight sides.

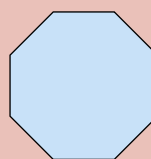


Regular pentagon

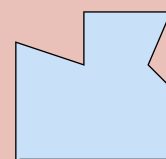


Irregular pentagon

An **octagon** is a shape with 8 straight sides.



Regular octagon



Irregular octagon

12 Join the dots to form the pentagons, hexagons and octagons.

a

3

2

4

1

5

b

3

4

2

5

1

6

c

2

3

4

1

5

d

4

6

2

3

5

7

1

8

13 Write the name of the shape on each shape, then record the numbers of sides and angles.

	Shape	Sides	Angles
a			
b			
c			
d			

	Shape	Sides	Angles
e			
f			
g			
h			

14 What shape am I?

- a I have 4 sides all the same length and 4 right angles. _____
- b I have 3 sides and 3 angles. _____
- c I have 2 pairs of sides of different lengths and 4 right angles. _____
- d I have 5 sides the same length and 5 angles. _____
- e I have 8 sides all the same length and 8 angles. _____
- f I have 4 sides the same length, 2 acute angles and 2 obtuse angles. _____



PART 1

Complete the algorithms.

a

Hund	Tens	Ones
4	3	6
+	3	2
<hr/>		

b

Hund	Tens	Ones
6	5	8
+	5	3
<hr/>		

c

Hund	Tens	Ones
9	2	8
-	7	0
<hr/>		

d

Hund	Tens	Ones
7	9	4
-	5	6
<hr/>		

Use any strategy to solve these mentally.

e + =

f + =

g + =

h - =

i - =

PART 2

Complete the grid.

	×	2	4	3	5	7	6	8
a	3							
b	4							
c	7							
d	8							

Complete the extended facts.

e × =

f × =

Write all the factors of:

g 16 _____

h 24 _____

PART 3

a Expand the numbers by writing them in the place value grid.

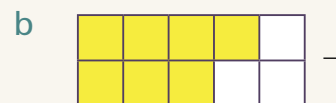
Number	Tens Thou	Thou	Hund	Tens	Ones
4326					
5279					
6380					
24 206					
31 702					

b Write the number two thousand three hundred and twenty-six.

c What is the place value of the 3 in the number 6354? _____

PART 4

What fraction is shaded?



Order the fractions from smallest to largest.

c

d

e

PART 5

Solve the problems.

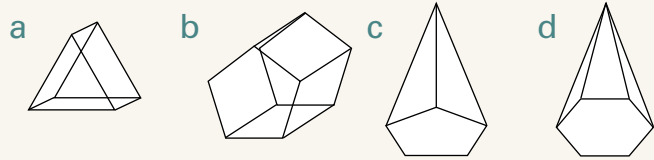
a There are 366 boys and 217 girls in the sports club. How many children altogether?

b Jane has saved \$234 and \$137 towards a \$557 tablet. How much more must she save to buy it?



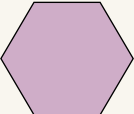
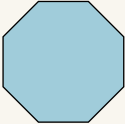
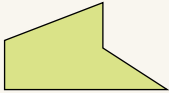
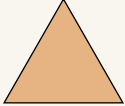

PART 6

Name the prisms and pyramids.



a _____
 b _____
 c _____
 d _____

Match the shape with its name.

e 	h 	hexagon
f 	i 	triangle
g 		pentagon
		quadrilateral
		octagon

PART 7

Put a cross on the parallelograms.



PART 8

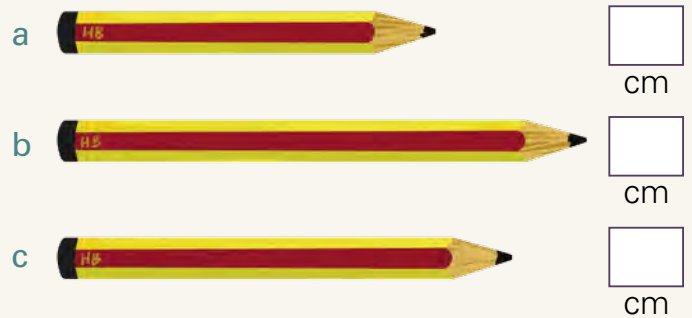


What direction from Home are the following?

a Sail _____ c Vincent _____
 b Willow _____ d Miami _____

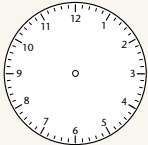
PART 9

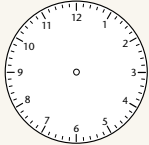
Measure the lengths of the pencils.

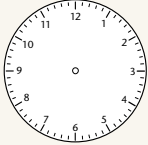


PART 10

Show these times on the digital and analog clocks.

a Half past 7 : 

b 10 past 9 : 

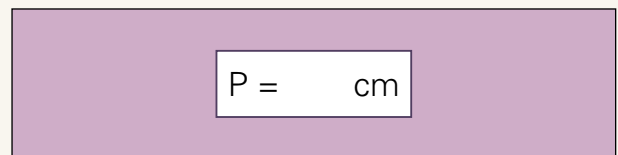
c 10 to 9 : 

Calculate the minutes from:

d 3.05 am to 3.40 am _____
 e 8.50 am to 9.47 am _____
 f 11.50 am to 1.25 pm _____

PART 11

What is the perimeter of this shape in centimetres?



PART 12

a How many millilitres in 1 litre?
 b How many shampoo bottles would fill a 1-litre container?

